

Official Action states that there is insufficient antecedent basis for “the frame” in line 3 of claim 8. It is respectfully submitted that line 2 of claim 8 recites “a frame” which thereby provides antecedent basis for “the frame” in line 3. Thus, it is respectfully submitted that the rejection of claims 1, 4-8, 16, and 19-21 under 35 U.S.C. § 112, second paragraph should be withdrawn.

Claims 1, 4-8, 10-16, and 19-21 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Taylor et al. (U.S. Patent No. 5,876,219). It is respectfully submitted that claims 1, 4-8, 10-16, and 19-21 are allowable over the art of record for the reasons set forth below.

Claim 1 (as amended) includes features that are neither disclosed nor suggested by the Taylor et al. reference, namely:

... areas of reduced rigidity in a peripheral wall of the housing, each of the areas of reduced rigidity comprising either a notch or a slot and located at positions generally furthest from a neutral point of the connector and extending through a distal end of the peripheral wall of the housing from an inner face to an outer face of the peripheral wall. (emphasis added)

The present invention as claimed in claim 1 is directed to an electrical connector housing that has areas of reduced rigidity, each area of reduced rigidity comprising a notch or a slot that extends through the distal end of the peripheral wall of the housing from an inner face to an outer face of the peripheral wall. Because the notches or slots extend through the distal end of the peripheral wall of the housing from an inner face of the peripheral wall to an outer face, stress buildup is avoided. Thus, the reliability of the connector and its housing is improved.

On the other hand, Taylor et al. discloses peripheral walls 15 with portions of reduced thickness 17. The Office Action states that “Taylor et al clearly disclose the slot (17) is extending through the distal end of the peripheral wall (13)” (Office Action, page 5, lines 10-11). However, it is respectfully submitted that the areas of reduced thickness 17 do not extend through the distal end of the peripheral wall of the housing from an inner face to an outer face of the peripheral wall, as required by claim 1. In Taylor et al., all of the material is not removed from the

wall 15 at portions 17, and accordingly the portions 17 do not extend through the peripheral wall of the housing from an inner face to an outer face. Moreover, the areas of reduced thickness 17 provide alignment in combination with surfaces 18, 19 during mating of the connectors. It is thus respectfully submitted that there is no motivation for the portions 17 to extend through the peripheral wall of the housing from an inner face to an outer face in Taylor et al.

Claim 8 includes features that are neither disclosed nor suggested by the Taylor et al. reference, namely:

... areas of reduced rigidity in the frame located only at positions generally furthest from a neutral point of the connector. (emphasis added)

The present invention as claimed in claim 8 is directed to an electrical connector housing that has areas of reduced rigidity located only at positions generally furthest from a neutral point of the connector. The areas of reduced rigidity (e.g., the areas of housing 15 near openings 12 in Figure 3) avoid stress buildup by accommodating the deformation or warpage caused by thermal cycling. The areas of reduced rigidity are provided in the housing only where the greatest deformation in the connector is expected (i.e., only at the positions generally furthest from a neutral point of the connector) (specification, as originally filed, page 6, lines 15-20, and Figure 3 and its corresponding description at page 6, lines 21-31). Thus, the reliability of the connector and its housing is improved.

The Office Action fails to address this feature of the claimed invention. Taylor et al. merely discloses peripheral walls 15 with portions of reduced thickness 17. However, the areas of reduced thickness 17 are not provided in the frame only at the positions generally furthest from a neutral point of the connector, as required by claim 8. Instead, the areas of reduced thickness 17 are disposed along the entire periphery of the housing 11 (Fig. 2).

Claim 12 includes features that are neither disclosed nor suggested by the Taylor et al. reference, namely:

A method of reducing rigidity in a housing of an electrical connector, comprising:
determining a location on said housing which may build up stress; and
removing a portion of the housing at said location. (emphasis added)

The present invention as claimed in claim 12 is directed to a method of reducing the rigidity in an electrical connector housing by determining a location on the housing where stress may build up, and then removing a portion of the housing at that location. The portion of the housing that is removed corresponds to the areas of reduced rigidity described above. These areas of reduced rigidity avoid stress buildup by accommodating the deformation or warpage caused by thermal cycling, thereby increasing the reliability of the connector and its housing.

The Office Action fails to address the claimed feature of determining a location on the housing which may build up stress. As acknowledged by the Examiner, "Taylor et al's slot is not intended for reducing stress in the connector housing" (Office Action, page 5, lines 15-16). Taylor et al. is unrelated to avoiding stress buildup, and therefore, Taylor et al. does not teach or suggest determining a location on the housing which may build up stress, and does not remove a portion of the housing at the location, as required by claim 12.


Based on the foregoing, claims 1, 8, and 12 should not be rejected as being anticipated by Taylor et al. Thus, claims 1, 8, and 12 are patentable for the reasons set forth above. Claims 4-7 and 16 are dependent on claim 1, claims 10, 11, and 19-21 are dependent on claim 8, and claims 13-15 are dependent on claim 12, and are patentable over the art of record for the reasons set forth above. Withdrawal of the rejection of claims 1, 4-8, 10-16, and 19-21 under 35 U.S.C. § 102(e) is respectfully requested.

DOCKET NO.: BERG-2462/C2346

PATENT

In view of the foregoing amendments and remarks, Applicants submit that the above-identified application is in condition for allowance. Early notification to this effect is respectfully requested.

Respectfully submitted,



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Date: **February 20, 2001**

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